REMARKS

I. Status of the claims

Claims 1-3 and 11-56 are pending. The examiner has indicated that claims 23-32, 36, 37, 41, 42, 49, and 50 are allowed. The examiner has also objected to claims 43-35 as being dependent upon a rejected base claim, but indicated that the claims would be allowable if rewritten in independent form.

Claim 51 has been amended to recite a preferred organometallic complex. The amendment places the claim in better condition for allowance or appeal, and does not introduce subject matter that would require a new search by the examiner. Therefore, Applicants respectfully request that the examiner enter this amendment.

II. Rejections under 35 U.S.C. § 103(a)

The examiner rejected claims 1-3, 11-16, 33, 34, 38, 39, 46, 47, and 51-56 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Published Patent Application No. 2002/0034656 to Thompson et al. ("Thompson"). The examiner has also rejected claims 17-22, 35, 40, and 48 under 35 U.S.C. § 103(a) as being unpatentable over Thompson in view of U.S. Published Patent Application No. 2001/0020373 to Yamazaki et al. ("Yamazaki") and U.S. Published Patent Application No. 2003/0059646 to Kamatani et al. ("Kamatani").

In the Office Action, the examiner states,

> In the phenylimine formula shown in Thompson's Fig. 49, R corresponds to present R_1, R' corresponds to present R_3-R_6. Thompson et al do not explicitly define R and R' for the phenylimine formula shown in Fig 49 but, based on Thompson's disclosure as a whole and paragraphs [0169]-[0173] in particular, one of ordinary skill in the art at the time of the invention would have reasonable expected at least alkyl and aryl groups to be suitable substituents since Thompson et al. disclose alkyl and aryl substituents and suitable for other luminescent compounds within Thompson's disclosure. Further, the phenylimine formula shown in Thompson's Fig. 49 does not show a substituent at the position corresponding to present R_2 but, based on paragraphs [0172]-[0173] in particular, *one of ordinary skill in the art at the time of the invention would have reasonably expected that phenylimine ligands having an aryl group at this position instead of hydrogen could be used to make compounds or formula L_2MX.*
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> See Office Action, page 4 (emphasis added).

However, Applicants are using an electron donating group, such as alkyl, as an R_2

substituent to realize a particular object of the invention: to achieve both fluorescence and phosphorescence. As set forth in the specification,

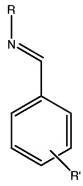
> The organometallic complex according to the present invention can be used as a fluorescent and phosphorescent material that the *R_2 in the aforementioned general formula 2 is not hydrogen but an electron donating group such as an alkyl in order to efficiently realize the both components of fluorescence and phosphorescence.*

See page 13, lines 7-11 (emphasis added). As described by this passage, one of the objects of the invention is to emit both fluorescence and phosphorescence by the organometallic complex, which is achieved, not through the use of a hydrogen atom, but through the use of an alkyl group or the like as R_2. The substitution of a hydrogen is therefore not a mere replacement but a calculated substitution designed to achieve a particular object of the invention.

By substituting the H in the R_2 position (the structure taught in Thompson) with an electron donating group (something not taught in Thompson), Applicants are able to create an organometallic complex that is both fluorescent and phosphorescent (something not taught in Thompson).

In the Office Action, the examiner states that Thompson teaches that substituents for the light-emissive organometallic complexes may be selected from electron donors and electron acceptors, citing paragraph 48 in Thompson. See page 6 of the Office Action. However, the disclosure in paragraph 48 teaches only that phosphorescent organometallic complexes can have substituents that are both electron donors and electron acceptors. Paragraph 48 does not come close to suggesting that an electron donor can be substituted at a particular place on a particularly configured organometallic complex to achieve phosphorescence; nor do paragraphs 169-173 or any other passages disclosed in Thompson.

In Fig. 49, Thompson teaches a phenylimine having the following formula:



In this formula, Thompson has an R substituent bonded to the nitrogen of the phenylimine and an R' substituent in the phenyl ring, designating that the R' substituent may be bonded to any carbon in the ring.

Through this designation, there is only place on the phenylimine that a hydrogen atom clearly has to be: on the carbon of the imine group, the very place that corresponds to the R_2 substituent in Applicants' claimed invention. All other places on the compound, including the nitrogen group of the imine and every carbon in the phenyl ring, Thompson has placed substituents showing that a hydrogen atom is not necessary. Through this formula, one skilled in the art would therefore deem this hydrogen atom--the only hydrogen atom in the phenylimine not taught as replaceable--to be important.

Yet the examiner suggests that it would have been obvious to remove the one necessary hydrogen in this formula and substitute it with an electron donor because Thompson, when discussing *other* compounds, suggests that alkyl groups and electron donors are suitable substituents. Applicants respectfully submit one skilled in the art would need additional motivation or reasoning to alter the phenylimine taught in Thompson. Certainly there does not appear sufficient motivation for one skilled in the art to substitute the hydrogen--the only hydrogen out of the seven hydrogens in phenylimine structure that Thompson suggests can *not* be substituted--with a electron donating group.

If substituted with an electron donating group, there would be no expectation that the phenylimine would advantageously produce additional benefits, such as phosphorescence. This feature of the claimed organometallic complex is not adequately addressed in the Office Action. The examiner only states that "applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art [that] cannot be the basis for patentability when the differences would otherwise be obvious." See page 7 of the Office Action.

However, this statement clearly misses the importance of the phosphorescence. Obvious derivations from the phenylimines taught by Thompson would not produce organometallic complexes having phosphorescence. Rather, Applicants have discovered that this phenomenon can exist only when the hydrogen of the imine group is substituted with an electron donating group. Accordingly, phosphorescence is not an advantage that would flow naturally from the suggestions of the prior art.

Yamazaki and Kamatani, the secondary references cited by the examiner for claims 17-22, 35, 40, and 48, do not overcome the deficiencies of Thompson. Accordingly, Thompson, by itself or in combination with Yamazaki and/or Kamatani, does not teach Applicants' claimed invention. In view of these remarks, Applicants respectfully request that the rejections under 35 U.S.C. § 103(a) be withdrawn.

III. Conclusion

Except for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully submitted,

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